

Claims

1. Process for attaching a label jacket to objects, such as bottles or similar items, where a label jacket is seized by a separating jaw unit by its forward margin and pulled in axial direction over an object, characterized in that the object, prior to the pull-over application, is held by the area of its mantle surface, by positive and/or friction lock, the pull-over process is initiated, the holding device on the mantle surface is temporarily released as soon as the separating jaw unit at least partially surrounds the object over its mantle surface, and, at the latest when the desired adhesion height of the label jacket on the object has been reached, the latter object is again seized by area of its mantle surface, which is now covered with the label, and as a result the label becomes affixed in a manner so it cannot slip, while the separating jaw unit is pulled off.
2. Process according to Claim 1, characterized in that the hold on the mantle surface of the object occurs at a certain height position, first with positive and/or friction lock, as soon as the forward margin of the label jacket approaches this height position, the holding device is then briefly released with simultaneous axial support of the object, and after the passage of the height position, the object is held in such a manner that the label jacket can then continue to be pulled over axially with respect to the object until the adhesion height is reached.
3. Process according to Claim 1 or 2, characterized in that the hold of the object occurs at two places of its mantle surface with separation intervals in the axial direction, and the two axially displaced holding devices, during the pull-over application of the label jacket, can alternately be controlled to rise, in such a manner that the object is at all times subject to or guided by at least one holding device.
4. Process according to at least one of the preceding claims, characterized in that the holding device of the object during the axial pull-over application of the label jacket is controlled as a function of the operating movement of the spreading jaw unit and/or the transport movement of the object.

5. Process according to at least one of Claims 1-4, characterized in that the label jacket consists of a stretchable film hose material with smaller internal diameter than the external diameter of the object, in that, before the pulling over, it is elastically extended, at least at its forward margin advancing in the axial direction, by the spreading jaw to a value in excess of the external diameter, and the extension is released after the adhesion height has been reached.

6. Process according to at least one of Claims 1-4, characterized in that the label jacket consists of a film hose material which is shrinkable when exposed to heat, which has an internal diameter which is equal to or larger than the external diameter of the object and which, after the adhesion height has been reached, is at least partially shrink wrapped on the object, before the holding device of the label jacket and of the object is released.

7. Process according to Claim 6, characterized in that, after the release of the holding device, a complete shrink wrapping occurs.

8. Process according to at least one of Claims 1-7, characterized in that the object, at least during the pull-over application of the label jacket, is continuously transported, preferably in a circular path.

9. Device for the attachment of a label jacket (E) to objects (F), such as bottles or similar items, with at least one spreading jaw unit (50) for seizing the label jacket at its forward margin and axial pull-over application of the label jacket by means of the spreading jaw unit onto an object, particularly for using the process according to Claim 1, characterized in that the spreading jaw unit (50) is associated with a controllable holding device (20) for seizing the object (F), with positive and/or friction lock, in the area of its mantle surface.

10. Device according to Claim 9, characterized in that at least one spreading jaw unit (50) and at least one holding device (20) are associated with a continuously drivable conveyor (3) for transporting the object (F), and in that they are moved synchronously with the latter.

11. Device according to Claim 9 or 10, characterized in that the holding device (20) seizes, after the pull-over application of the label jacket (E), the area of the mantle surface of the object (F) that has been covered, in the case of bottles preferably in the middle section, particularly in the section having the largest external diameter.

12. Device according to one of Claims 9-11, characterized in that the holding device (20) is constructed in the form of a clamp having two arms (20a, 20b) which can be moved in opposite directions.

13. Device according to Claim 12, characterized in that the arms (20a, 20b) are appropriately adapted in their shape to the external contour of the object (F), matching the area that is seized, and they preferably have a non-slip surface.

14. Device according to Claim 12 or 13, characterized in that the clamp (20) is associated, as a function of the direction of movement of the spreading jaw unit (50) and/or the transport direction of the object (F), with a controllable actuation device (21-26).

15. Device according to one of Claims 12-14, characterized in that the clamp (20) can be moved from a release position to a seize position, and vice versa, where it is preferred that the seize position is automatically controlled, and the release position is controlled by the actuation device (21-26).

16. Device according to Claim 15, characterized in that the actuation device (21-26) is constructed in such a manner that two different seize positions are possible, where, in a position between the object (F) and the clamp (20), a slit remains for pulling the label jacket (E) through, and in the other position, the clamp (20) is applied, without tolerance, preferably with a defined force of application, to the object (F) or the label jacket (E).

17. Device according to at least one of Claims 12-16, characterized in that each arm (20a, 20b) of the clamp (20) is secured to its own shaft (19a, 19b), which is vertical with respect to the plane

of transport, and these shafts (19a, 19b) are separated from each other by an interval, which allows the free penetration of the spreading jaw unit (50).

18. Device according to at least one of Claims 9-17, characterized in that the spreading jaw unit (50) is secured vertically with respect to the plane of transport of the objects (F), in such a manner that it can be moved alternately in opposite directions, particularly by means of a reversible double-action cylinder (34), and the operating movements are controlled, at least during some periods, by at least one radial cam (40, 41, 41b).

19. Device according to at least one of Claims 10-18, characterized in that the conveyor (3) is a carousel-like revolving table, which can preferably be rotated about a vertical axis (30'), with several placement surfaces (4), which are evenly separated, for the objects (F), and each placement surface is associated with a liftable and lowerable spreading jaw unit (50) and a clamp (20), where a vertical guide (32), which takes up the spreading jaw unit (50), and arms (20a, 20b) of the clamp (20) bearing shafts (19a, 19b) are preferably arranged on the radially internal side of the circumferential path of the placement surfaces (4).

20. Device according to Claim 19, characterized in that the placement surfaces (4) are associated with controlled liftable and lowerable centering elements (14), particularly rings, and/or the top side of the placement surface is correspondingly adapted in its shape to the contour of the standing surface of the objects (F).

21. Device according to Claim 19 or 20, [characterized in] that the revolving table (3) is associated with a feed star wheel (5) and a delivery star wheel (6) with controllable grip elements to feed and deliver the objects (F), and the spreading jaw units (50) are raised, in the circumferential area from the delivery star wheel to the feed star wheel, from a bottom dead center position into the direction of a top dead center position.

22. Device according to at least one of Claims 9-21, characterized in that the spreading jaw unit (50) is constructed in the form of a nipper, preferably with two internal jaws (51a, 51b), which can be swiveled horizontally in opposite directions in a controlled manner, and which has a

application surface (53) for the forward margin of a label jacket (E), and which has two counter arms (52a, 52b), which are associated with the internal jaws, and which can be swiveled in opposite directions either towards each other or towards the internal jaws, where the internal jaws can be brought in contact with friction lock with the internal side and the counter arms with the external side of a label jacket.

23. Device according to Claim 22, characterized in that the spreading jaw unit (50), which can be actuated by means of control elements (70) which are secured to the circumferential path of these spreading jaw units, can be moved by a peripheral cam (68) that can be swiveled, as desired, from a ready position into the spread position or vice versa.

24. Device according to one of Claims 19-23, characterized in that two revolving tables (3, 3') are connected in parallel and they are supplied with a common, one-track feeding stream of objects, which is divided over two revolving tables and which is again combined, behind the revolving tables, to a one-track row.